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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,001	02/25/2000	Jing Wen Tzeng	P-1004	6948

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EXAMINER
BOSS, WENDY L

ART UNIT	PAPER NUMBER
1775	14

DATE MAILED: 05/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-14

Office Action Summary	Application No.	Applicant(s)	
	09/513,001	TZENG, JING WEN	
	Examiner	Art Unit	
	Wendy Boss	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 December 2001* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-12 and 14-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-12 and 14-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 4-12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,060,166 (Hoover et al.) in view of U.S. Patent No. 6,099,974 (Lenling).

Hoover discloses a thermal management system comprising a heat source having an external surface and a thermal interface, which comprises a flexible graphite sheet (see column 2, lines 32-36 and 63-66). Hoover discloses that the flexible graphite sheet is designed to transfer heat from a heat source to a heat sink. It is the examiner's position that the flexible graphite sheet must be in direct operative contact with the heat source in order to achieve the heat transfer. In Figure 2a of the reference, it is disclosed that the fibers are oriented in one direction. Such orientation would result in the graphite sheet exhibiting anisotropy. Hoover further discloses that the heat source is an electronic component.

Hoover does not disclose that the planar area of the flexible graphite sheet is greater than the area of the external surface of the heat source; however, it would have been obvious to one having ordinary skill in the art that a large planar area would provide the graphite sheet greater surface area for dissipating heat.

Hoover also does not disclose that the heat sink is made of graphite or that it has fins or holes; however, attention is directed to Lenling, which teaches that heat sinks made of graphite are well known in the art (see column 1, lines 26-27). It would have been obvious to one having ordinary skill in the art that a heat sink made of any known material could be used in the Hoover invention. It also well known in the art that providing a heat sink with fins or holes increases the surface area/air flow, thereby increasing heat dissipation. It would have been obvious to one having ordinary skill in the art that a heat sink with fins or holes would provide the Hoover invention with excellent cooling abilities.

Hoover also does not disclose that size of the carbonaceous particles; however, absent a showing of criticality, it is within the level of one having ordinary skill in the art to use carbonaceous particles of any size.

Response to Arguments

3. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wendy Boss whose telephone number is 703-306-5922. The examiner can normally be reached on M-Th 8:30a-6:00p; 2nd F 8:30a-5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 703-308-3822.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Wendy Boss
May 6, 2002

DEBORAH JONES
SUPERVISORY PATENT EXAMINER